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INTERVIEWEE: Fortune Masdeo

SUBJECT: 1937 Pre-Olympics, Tokyo/Heliarc Welding  
Invention/Black Belt in Judo/Orchardist

INTERVIEWER: Patricia M. Cordone, SJHM Volunteer

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This is a 60-minute interview with Fortune Masdeo about his background, participation in a 1937-38 Pre-Olympics in Tokyo and the gold medal he won there. In addition, he discusses earning a black belt in Judo and refers to his co-invention of Heliarc Welding.

FM = Fortune Masdeo

PC = Patricia Cordone

PC Testing 1,2,3,4. Tell me a little bit about your family and where you were born and that sort of thing.

FM Okay. My name is Fortune Masdeo and I was born in South Wellington, which is in British Columbia, Canada, on Vancouver Island which is, if you're familiar with Canada at all, the main biggest town closest to it is Nanaimo and South Wellington is just a couple of miles south of there. I was born March 24, 1919 and by 1923 my folks had moved to Inglewood, California which is down south and near the Los Angeles area and that is really where I

was raised as far as my schooling. I went through grammar school, intermediate school, high school at Inglewood and it really wasn't until oh probably 1935 I was still in high school and I became interested in sports and being of a small stature, you know, I couldn't play the big varsity football team, I couldn't compete with the six-footers in that football. They did have high school teams which were below the varsity level and I was interested in sports; I was sort of gifted athletically, I used to do a lot of tumbling and acrobatics and things like that at first, then that got into basketball, I played basketball. Then too, in school if you're aware when you make the team you receive a letter of the school and in Inglewood it was a big I of course and that's what they called it "The Big I" which is every boy's dream to wear a letter in high school, that's a sense of accomplishment. And then that led to football and I also played football and I received a letter in football. And I don't know whether you believe in fate or not but I took a vocational course in high school in oh machine shop, automobile mechanics, mechanical drawing and other things and one of them was a welding class. That doesn't sound like much right now but hopefully later on you can appreciate the circumstances that -- it turns out that my welding teacher was also a wrestling coach. So there you begin

to see the influence and of course he's always looking for wrestlers, as all coaches are, looking for members of the school to get on this team. Well, I was interested and apparently was a natural at it and he proceeded to take me under his wing and by the time, 1935 and also in '36, what he used to do -- he had a son, Roy Moore, Jr., but he adopted another boy whose mother and father had passed away which was Mel Bruno and he turns out to be my roommate and we'll speak about him more later on. But, you know, in high school you don't think much about that but Mr. Moore, Pop Moore we called him, he would take us up to Yosemite and he was a leader in conditioning. He thought that the young athletes should be in top condition.

PC           Sort of ahead of his time.

FM           Very much so. He was a man, as it turns out, 55 years ahead of his time. Most athletes are good at their first approach at it and those that proceed are still good and even the competition, the athletes are still very good but if you want to be the best you've got to be better at everything. And among other things they all learn the holds, they all learn the same kind of movements on the mat but where they lose out in the long run, in a tournament especially -- big tournaments sometimes last

two and three days and you have to wrestle two or three times a day by process of elimination to get to the championship -- and this is why Pop Moore instilled on this conditioning and I'm over-emphasizing that because I still believe it's important. But what he would do during summertime, being a school teacher he was off in June, you know, through the summer months we went up to Yosemite National Park, the Yosemite Valley -- and in those days you could stay in the Valley 30 days, today you can't do that -- so we would stay 30 days in the Valley, then go up to Glacier Point and stay 30 days and then come back and spend the rest of the time in the Valley (laughter).

Some interesting stories as far as what Pop Moore would do. First thing he would do -- we used to stay in Camp 14, it's \_\_\_\_\_ to this day alongside the Merced River -- first after we got our camp situated and he would lay it out, within the next two or three days we would be out with the rakes and he had this trailer and we'd be going all over the Valley scraping up pine needles and we'd get this trailer all full of (chuckles) pine needles, bring it back and spread it out till it covered about a 20 foot by 20 foot area and it would be maybe 12 inches high. Well what he had done -- the first time I realized what he had done -- he'd preplanned, he

had brought a 20 by 20 piece of canvas for a wrestling mat and you'd lay all these pine needles up about 12 inches or so and then spread the canvas over it and then we'd trample all over that and they were packed down to maybe, you know, six inches or so and there we had a nice wrestling mat. Of course the ulterior motive there is that we had to do our exercises every morning and every night and do our workouts and practice and then we hit the Merced River of course to clean up and wash off our \_\_\_\_\_ work. But that was the one thing that he instilled upon us. The other one was with hiking. Nowadays you see people riding, going for a walk, bicycling but what Mr. Moore did, he wanted us up in the high altitude. Now Yosemite Valley's probably around 6000 feet, it varies of course, but the back country gets up around 8-10,000 feet and that's pretty well where he wanted us to walk and so what we'd have to do -- many years ago, if you've never been to Yosemite Valley, used to be called "The Old Village", and we'd go down to The Old Village and we'd have a big knapsack, almost looked like a gunnysack, it wasn't the fancy ones like they have today, and we walked down the aisle, can of beans, can of this (laughter). Nowadays they wouldn't pack that; they got all the foods in, what do you call them, the little cellophane containers and the lightweight food specially made for backpackers but in those days (laughter) they

were just plain old can of beans and we put 'em on our back in our knapsack and we'd hike back into the back country. And we went back 20 miles into the back country, what is called Merced Lake and then a little further than that it's called Washburn Lake. Now this is 20 miles in the back country and it's a good all-day hike to get there and that was part of the training. The reason he was doing this, as we look back, was that when you exercised at high altitude the air is thin and your body becomes tired quite quickly because the air is thin, you need more oxygen to breathe, but once you get acclimated and once you get exercising why you become used to it and it's just like building up an additional endurance and when you come back to sea level and be wrestling you can wrestle all day long in effect and as far as endurance you're far superior and so we all \_\_\_\_\_ to that.

So then during high school that was the sports that we were interested in, probably one of the biggest thrills or privileges I ever had was when you're elected by your peers, and these are the peers of all the athletes in Inglewood High School, all the Varsity, anybody that earned a letter, it was called "The Big I Club", and in 1936 I was elected President of The Big I Club. Now you're elected by your peers and nothing is more proud

than to be elected by your own people and didn't realize it at the time but I was thrilled, more I think about it now it means more now than it did then perhaps. Anyhoo, that's sort of the background of the training. Pop Moore was very much in competition, he entered me in all of the high school -- I won all the high school championships in Southern California, they start off as Novice, Junior and Senior and once you've won a Senior you can't win a Novice or a Junior but I did win all of the high school championships in Southern California which included San Diego at that time. Then let's see, in 1932 the Olympics were held in Los Angeles and Pop Moore of course being in student sports he invited the wrestling team from Japan to his wrestling club in Inglewood and I wasn't there yet because this was in '32 but we heard about them, the word gets around, and the only reason I mentioned it because later on in life I met one of the wrestlers, he became quite prominent in Japan and was instigator of getting us over to Japan. One of the sideline trips too was that -- have you ever been to Yosemite?

PC           No I haven't.

FM           If you've ever been to Yosemite Valley, it's the Seventh Wonder of the World, of course you can imagine I have fond memories of it. But in Camp Curry many years ago --

they don't do it today -- from Camp Curry up to Glacier Point is something like three or four thousand feet, well at Glacier Point is a sheer cliff and it was the practice in those days that every night they would build a fire four feet high four feet square out of redwood bark and burn it until it's nine o'clock. The ritual was that every night they would have firefall, I don't know if you've ever....

PC           Oh I've heard of that, yes.

FM           Have you heard of firefall? Well the reason I mentioned it was, remember I told you that we'd spent 30 days in the Valley, 30 days up in Glacier Point, then finished up our time back in the Valley. Well the ranger up there, Ranger Sam King -- I still remember him vividly, I think he's passed away but he later became head of another national park -- but he got interested in us when we were staying our period up at Glacier Point and he taught us how to push the firefall over, that was very very precise. And what happened, it was such a ritual in Yosemite that every night nine o'clock all the lights went out -- you knew the time, you could set your watch for it -- every night there'd be a man down at Camp Curry with a huge microphone maybe 10 or 15 feet long, a huge microphone, and he would yell up to Glacier Point, he



would say, "Hello Glacier Point" and the fellow up above he would hear it because the voice took time to travel and he would say, "Hello Camp Curry," in a long drawn out voice and he would say, "Let the fire fall" and he would answer, "All right" and that's when the fire would be pushed over. Can you imagine at night this mountain silhouetted against the sky and all this red coal, just a real firefall, it was just beautiful. And one of my honors and thrills was that Ranger Sam King, he was responsible for this and he had only trained people because it had to look -- it couldn't come over in poosh, you know, how a waterfall doesn't go over, it's always continuous, a continuous flow -- and that was the technique. And this hole was something like -- my recollection of it of course, I was thinking 55-58 years ago (chuckle) -- was a long hole in reverse, steel and you'd push it and you'd constantly feed the bark over the \_\_\_\_\_ until it was all gone and that was the end of firefall. Now all of a sudden all of the lights would come in all over the Valley. But they did away with it, I understand, because of the fire hazard.

PC Oh, I was wondering where the coals landed (chuckle).

FM Yes, of course it would all land on these rocks. Of course part of our training too, there was a ledge what

they called "The Ledge Trail" -- I don't know if it's still in existence today or not -- but the only part of the trail was painted by rock, the painting on the rock was the trail. It was one mile up and we used to just do that for exercise, we used to go right up that right on Glacier Point (laughter), they had a four mile trail and they had a one mile, straight up, straight up the trail.

PC           So you'd build not only endurance then but also kind of mental conditioning.

FM           Mental and you can imagine the physical conditioning. It's like walking up a ladder, you know, a mile high, a mile long ladder and it's higher altitude. Our legs, you can imagine our legs and our lungs. So all of this is sort of a background. About this time also, there is a little town -- I don't know the name of the town -- they were teaching Judo. I don't know if you ever heard the word Judo.

PC           Uh huh.

FM           But Judo it's a art of self defense, it's called the "Gentle Art of Self Defense" actually but it's powerful and we got interested in that and because of Mr. Pop Moore's association with the Japanese he got us started

and he kept going into Japanese \_\_\_\_\_ with Judo. You start off like with a white belt because that means your mind is clear and blank so if I'm a black belt against a white belt I know you're an amateur, you know, you're a novice, and then you graduate to a purple belt, then you graduated to three degrees of brown belt and then finally you would get a black belt; this takes many years. So at the time why we went through and lo and behold the last championship we won now we graduated. In those days in high school, I graduated in the winter of '37. Now my recollection is that there are two classes a year and to the life of me I can't find the date; I know it was the winter of '37 which I believe was in February. Is that correct? You're a teacher, I'm not. But I graduated in the winter of '37 and by that time I had won all the championships and I had won the AAU Championship which was open to anybody in the wrestling business (rustling papers while talking) as far as seniors and athletic clubs and what have you and having won that, why lo and behold I got through Pop Moore, Mel Bruno and I, got an invitation to be a member of the United States Olympic Wrestling Team and we said, "Well the Olympics aren't until 1940." That was our goal, 1940. But he said, "No, what they're gonna do is have a pre-Olympic team in the United States to send over to Japan and they're bringing over a lot of other athletes.

There'll be swimmers and divers and boxers and other athletes included but they're calling it the "Pre-Olympics." And we just thought it was kind of odd at the time which I'll explain a little later why it was called the Pre-Olympics and what happened to it. And of course Pop Moore was all just bubbly, you know, that Mel and I - - of course we both won our position on the team, I wrestled 135 and he wrestled 145, sometimes 155 -- but of course we were all gaga and they were gonna leave in June. And so our preparation out of high school, I really didn't know really what to do yet because between February and June was just a short period there, but we accepted of course, we were all excited because that's a great honor. We went over on what's called the Taiyo Maru and....

PC           At that time did you have people who sponsored you or was it or was the financial burden all on you?

FM           No no, all on our own. They were going to subsidize our trip because it was a Japanese boat. The Japanese actually subsidized our trip to and from, they paid for our transportation. And again, we thought that was kind of unusual because usually either the American Olympic team paid for it. You know, I was only 18 years old. You stop to think of what went on, we didn't think of

what was happening over there and really cared less because you had to focus on your goals. If you don't have a goal, you never achieve anything; you've got to have a goal and our goal was the 1940 Olympics. So we trained for it and we accepted and we went to Japan. Of course we take off from Los Angeles and it takes you up to San Francisco, this is in June of 1937. And after San Francisco we ended up in Hawaii and by boat this takes your months up (laughter). It's like a day to go from Los Angeles to San Francisco and like -- I don't recall -- but five or six days to get to Hawaii and maybe another ten days to get to Japan. We landed in Yokohama.

PC Did you train on the boat?

FM Oh yes, we trained on the boat, we used to run around, we used to give exhibitions on the boat, you know, for the passengers that were traveling.

PC Oh, this was a regular passenger ship and you were booked?

FM Yes, we were on a passenger liner. The Taiyo Maru was a passenger liner. And the interesting historical event that took place in 1937: one day we get this note to be on the lookout because Amelia Earhardt was lost. Now you

recall her? Yeah, I think they had an anniversary here. But of course everybody's on the boat looking for Amelia Earhardt to see if by chance -- that's just what they wanted all the passengers to do because of all the people on the boat maybe one set of eyes could find her but we didn't see her of course because she was way down in, apparently found her in another area. You know, when I hear about Amelia Earhardt, you know, my recollection for her. But we were treated very royally. The reception in Japan was Yokohama, then they had a big bus that took us up to Tokyo. It would be like landing in San Jose and then driving up to San Francisco or vice versa, it's about, I don't know, 50-75 miles. We got established; they sent our team to the YMCA in Tokyo, the swimming team was sent to another -- depending on whether facilities were there or not. They told us they were building a special stadium for the 1940 Olympics just like they do in most countries but we didn't see anything. You know, 18-year-olds, we had our things to worry about. Of course you've got to keep in mind too -- nowadays, I don't know how nowadays but in those days Pop Moore, there was no smoking, there was no drinking, there was no girls, that just was a no no, no distractions because it took all your time and energies (chuckle) to concentrate and those are distractions. One of the first matches that we had this fellow was from Osaka, Japan,

University of Osaka, and oh it was the first match and he was tough. Imagine, I was still out of high school, I'm not even in school yet, in college, but I won the match and like a sportsman should do I went over through our interpreter -- he couldn't speak English -- and he was apologizing for not giving me a tougher match. "Oh goodness!" I thought, "What's going on \_\_\_\_\_." He was very very difficult and I only won in the last few minutes, but the interpreter was saying, "Oh, he's very apologetic, he didn't have enough time to practice and train." He said, "It's required here in Japan that all seniors in college have to spend one year in the military and he just came back from China." And he had spent one year in the military and this group of soldiers went over to China and they were practicing on the Chinese and they were saving their ammunition, they didn't use bullets. He said he bayoneted 28 Chinese, very brave man, very brave, and that's why they recognized him for the bravery, being able to bayonet. And they would just land, and sending groups of soldiers and oh a little stadium practice there, warfare. Well, \_\_\_\_\_ little did I know. You know, we had 37, we had no idea of what was coming but we wrestled from five or six different universities; these were preliminary matches. And finally on July 24, 1937 the finals appeared; I met a man by the name of Nishede, he was from Waseda

University, and this was the man that I wrestled for the championship and, you know, to this day we still correspond. I've got letters in there, you'd find it interesting, maybe later I'll show you. And he's always sending me presents; they're the world's greatest (chuckle) -- that's what he does. Yep, I can imagine, you just can't find (pause) I don't know what this was but (sound of shuffling papers). It's interesting, we haven't corresponded lately, last time we corresponded he was telling me that he was sick and he had a heart bypass, an operation, so I guess he's....but....

PC           So you were then probably among the youngest?

FM           Yeah, I was probably the youngest on the team, yes.

PC           And certainly it sounds as if you might have been younger than those Japanese competing.

FM           Oh yes, you see actually Nishede -- I found out later he was a senior at Waseda University and I was yet to be a \_\_\_\_\_ in college, it would be that, reflects on your ability because it was there. Actually when we were there too the thing to remember is that they treated us royally. This particular group, which I'll explain a little bit later when I get to it, this story that they



would take this -- Emperor Hirohito was the man, he was their God, you couldn't see him or anything like that. We went to the palace and then they took us to the various Japanese gardens in Tokyo, and they had dinners for us and the geisha girls, you ate on the floor. They wanted the experience of Japanese living; they ate on the floor, slept on the floor always on these takame mats and they'd bring out these big bean pillows, (laughter) kind of hard to get used to them. We heard that Kodokwan is the University in the world for teaching Judo. It's like the MIT in mathematics, you know MIT is recognized the world....

PC            Uh huh, right.

FM            Well, the Kodokwan is the University in the world for teaching and doing Judo. So we went over there; we didn't have the time but we wanted to see it and they told us the history of it and that the first Kodokwan -- really we think it's a university, Kodokwan University -- was built very strong and solid. They thought it had to be real strong to support all these people falling. Well the first building collapsed because of the constant falling; you know, when you throw in Judo you land on the ground (bang, bang noise here as if hitting something with a fist) and the constant vibration the whole

building collapsed. Today they tell us that's why soldiers break march when they go over a bridge or anything (bang, bang noise again) you can't have the same -- because it sets up a momentum that causes a lot of force. So they built the second one on huge springs, they're probably two or three feet in diameter, big springs to absorb the shock and a thousand men can work out at one time. It's a huge -- I don't know the size but it can hold a thousand men working out and allowing for the falls and throws because the body is flying through the air when they fall.

PC Well, I think at this point we'll stop and turn this over.

(Tape 1, Side 2.)

PC Side 2, Fortune Masdeo.

FM Okay, after our finals in Japan the plan was that our team was gonna go over to Manchuria\*. And it was a trip because the two members of the Japanese team in the 1932 Olympics one was Professor Hata and I don't recall the other name but he was a professor at the university in Manchuria. Well, today I looked on the map and I can't find Manchuria (laughter) and I asked Jeanie, I said,

"Where is Manchuria?" She didn't recall Manchuria, she always thinks of it as Korea. Well, the whole peninsula, the top used to be -- my recollection is and hopefully somebody can check this out but our maps don't show Manchuria anymore because it shows North Korea and South Korea on this huge peninsula. My recollection was that we were taking a boat from Japan over to Manchuria to see this man, he was going to give us a tour of Manchuria, but the Japanese government wouldn't okay our visas. Again, I'm in a little stumbling block; now that I look back it was obvious but at the time we were kind of put out and they gave us all kinds of excuses why they would not transport us through our visas over to Manchuria. So as a result we used that money, this was our own money -- and incidentally, as I recall, a hundred dollars of our money was equivalent to \$450 of Japanese money so it went a long ways. There are two main islands, Honshu and Kyushu are the two big islands of Japan and we traveled down to Kogashima, Hiroshima and little did I know years later it would become world famous for during the World War. After that trip why then we came home and we returned on what is called the Tatsuta Maru in '37. And upon returning to back home why the real world kind of sets in temporarily and that is my mom and dad and they all have to go to work and I went to work for Northrup. Northrup is in what is now Douglas El Segundo. It's

right near the airport and Northrup is the chief engineer for Douglas Aircraft. In the meantime, I started to work and Mel Bruno went to San Jose State; he got a scholarship to San Jose State.

PC In athletics?

FM In athletics because again he came in second in the tournament. I was the only one on the team that won the gold medal or this trophy, came in first. I didn't have any college aspirations, it was never part of my goal at the time. Well, Mel then got ahold of his wrestling coach and at San Jose state in 1937 the Athletic Director was Dud Degroot, many people don't know but he was installed as Athletic Director at San Jose State and he wanted to put San Jose State on the map athletic-wise. And among building up a championship football team and track and swimming and all the other good things why he also pushed the minor sports; wrestling was considered a minor sport. Football is the big moneymaker (laughter) but wrestling you're lucky to break even. Well, there was an attorney here in San Jose, Eugene Grattan, local attorney, at one time he ran for district attorney and he was the wrestling coach; he was a former wrestler and he volunteered to help Dud Degroot and the next thing you know I'm getting these letters to come to San Jose State.

I guess really through Mel he tried to build up this team and so by the fall of '37 then why I had decided to give it a go. So I came up here and they told me what they were gonna offer me, free room and board. I lived in the varsity, they had a big home what they called the Varsity House on Seventh and Reed and all the \_\_\_\_\_ were given free room there and then we had tickets for our meals at the cafeteria at San Jose State and gee that sounded pretty good, and they would pay our tuition; we had to pay for our books and things like that. So I majored in Industrial Arts because that was really my background. So then the next thing we \_\_\_\_\_ now we're in college and the team that we put together -- Gene Grattan put together - why we had won the Pacific Coast Intercollegiate Championship. Cal, University of Cal, and Stanford dominated the wrestling and when we came in that was the biggest upset of the year (laughter). He couldn't figure out where all these guys came from, the coach at Cal, fellow by the name of Stone, very prominent man, he's passed away since then. But anyway, we proceeded that whole year then of dominating all the colleges; we wrestled all over Northern California.

PC           How many \_\_\_\_\_ were on the wrestling team at that time?

FM

Eight, at that time there were eight. Now I believe there are ten, they book them up to heavier weight. San Jose State was really put on the map and we got all of our beautiful medals here which we can show. Finally in 1938 in the fall there was the Far Western Championship and this was for all of Washington, Oregon, Nevada, Arizona, California; it's called the Far Western Championship, open to everybody, not only collegiates but, you know, to other amateurs. And I was fortunate enough to win that and lo and behold here comes another letter from the AAU inviting us to go back to Japan. Mel and I had won the Far Western, they took all the champions from the team to go back to Japan again and now we're representing San Jose State, a little different. But the nice part about this trip was, there's nothing like experience no matter what you do and traveling and competition, especially international competition, it's much different. And the boat that we travelled on was called the Chichibu Maru (chuckle) and I'll write these names down. But we actually got the same kind of treatment in Japan but this time Professor Hata had called us aside and was proceeding to give us some inside information that we were curious about but we never asked and he was saying that -- we noticed a lot of military, a lot of soldiers marching and drilling and cannons and....

PC Different from the year previously?

FM Different from the previous year, moreso. And he said, "Well what's happening in Japan, there are two factions going on in Japan, actually it started last year, and you probably weren't aware of it but we were." There were two factions in Japan, one the militaristic, I think they called it the Tojo Militaristic Regime, one the domineering, controlled everything by military power, and there was another group that wanted peace, they didn't want war and it was through sports. And what they were doing, they were raising all this money and creating all this because they wanted to encourage sports, discourage the war effort by sports because many many thousands of people would come to the stadium to watch us, you know, and we were on television, the movies and newsreels and things like that which they showed us. But he said, "We're not doing very well." That's about as close as he dared say otherwise he may have been shot for all I know. But it was a little bit different and the whole atmosphere was a little bit different from the first but the same kind of a tournament went on but this time I lost in the finals. Yeah, I came in second, I lost, I won the silver which is not bad; I think a lot of it was due to the atmosphere. Now the only thing different we did this time, Mel and I went over to the Kodokwan

because now we're interested in Judo. You see, I think both of the successes that I had was I applied some of the movements in Judo and incorporated them into wrestling and so I think I had a superiority advantage versus another wrestler that did not have any Judo because Judo is a study of balance and leverage and you took care of every little detail and I believe that really was an asset for me. But we went over to the Kodokwan -- I was a brown belt -- and we enrolled at the Kodokwan, they gave us a two-week session and we worked it in between our wrestling (laughter). I think this was another reason, my mind was really concentrating on Judo because I wanted to become a black belt, that was my goal and everything just seemed to take second place. But the Kodokwan, we got excellent -- through our interpreter again, our interpreter thank goodness, he was a third degree black belt but he loved Judo and he would take us over there and he would match us up with all the competition and teach us all the advanced throws that we never even heard about over here but the Kodokwan again being the top of the line, so to speak. Well, they finally give us the test, in two weeks you're tested and I was the first American to win a first degree black belt. Many people don't know.

PC

Oh fascinating, in Japan.



FM In Japan at the Kodokwan! Now many people can get them here, there are different schools around, but to get it at the Kodokwan is quite an honor. We met Professor Kano, who was the inventor of Judo. He was still alive at the time, they introduced us because of our notoriety. So when we got back from Japan then -- we returned on the same boat, incidentally, the Chichibu. Then we started playing at San Jose State, we started playing soccer and I got interested in soccer because soccer again helps wrestling because of conditioning. You run up and down a field a hundred yards long, you know, and fifty yards wide, you got to be in pretty good shape (chuckle).

PC Have great legs (chuckle).

FM And lo and behold again, the team that was put together was -- California, University of Cal, dominated soccer, they were champions for the last ten years prior to this time, and we won the Pacific Coast Soccer Championship and I'll show you some medals that....

PC What an exciting time that you had.

FM Oh yes. Keep in mind the student body at San Jose State was like 3500 people. Now it's what? 30,000. San Jose High School used to be on the same campus as San Jose

State, it was over in one corner. We finally won the Pacific Coast Intercollegiate Championship and then also in 1939 the Worlds Fair was in San Francisco on Treasure Island, they built special Treasure Island, and then in that year they held most of your national championships on Treasure Island. So we went up there of course, I won the Far Western Championship on Treasure Island, which is a diamond medal which I'll show you, and also I won the National AAU Championship there on Treasure Island in the same year, 1939. In '39-'40 things starting to change. The coach sent us back to Champagne Urbana, which is the University of Illinois, and they didn't have any money -- the wrestling team -- all he had was enough for Mel and I, because we had won most of the championships. Champagne Urbana we didn't even know it existed and they put us on a little old train from San Jose, we didn't even have no place to sleep, we had to sit up and we traveled from here to Los Angeles and from Los Angeles across Arizona and Texas, we finally got down to New Orleans. To this day I don't know how we ate, I don't know what money we had; I know we didn't sleep, we had to sleep on the bench on the train. Now this is not the way to go to a wrestling championship (chuckle). And then from New Orleans we go up to Champagne Urbana and this is the winter of 1940 and we got up there -- it was the National Intercollegiate, all the colleges in the United

States enter their athletes, this happened to be the wrestling tournament -- it was really, when I look back, a very very sad state of affairs. We were both, if we weren't in such good physical condition to begin with we wouldn't have lasted the train ride. I forget how many days it took us, day and night on this train clinkety clank, clinkety clank, it was just terrible. Anyway, I got to the semi-finals, I lost, I took fourth, I was fourth best in the United States but no medals for fourth place, nobody knows about fourth. Mel in his semi-final he broke his arm. So here we are (laughter) back East and then I got a wire from Gene Grattan, knowing that Mel was gonna be in the hospital for a few days, to get on the next train and get back as soon as can because there was another championship coming on back here that he wanted me to be at least for San Jose State to see if he can do any good in this tournament. So I get on the train, go up to Chicago -- now here's a young kid all alone, I could see things, I could feel them changing, my wrestling career was beginning to end. And I took this train ride home and how I got to San Jose I'll never know but I remember getting off the train and we went to these tournaments. Next thing I know, everybody's dropping out of school, come 1940 the athletes are all, the boys and the women, women are going into nursing. You get a thousand people or more out of a student body of 3,000,

all of a sudden the place is dead and everybody has joined the services. Well, they just thought there was a war coming on, things were happening over in Europe and they were \_\_\_\_\_ for all of this. So in the meantime then, that was really kind of a turning point 'cause there wasn't anybody left in school so come June - - I had heard that Northrup was starting its own aircraft plant in Hawthorne, California, so I thought well see if by chance.... By that time I'd met my wife, she was a Home Ec major at San Jose State and we'd been going together and we'd planned to be married but we're waiting for the right conditions to go to work and so on. So I wrote to Northrup and lo and behold they said yes, they were hiring. They were just putting up the building but there were plans to make aircraft there.

PC            You had reached junior status at San Jose State at that time?

FM            Oh yes, I attended three years at San Jose State and I was \_\_\_\_\_ dropping out and then this war effort really turned the whole country, I could just feel it, especially in athletes I could feel it. So I went down to Northrup in June, I got a job as a welder of all things because that's all they had, they hadn't even started building airplanes yet. They were building the

structures and I was welding up all the jigs and fixtures and getting the tooling ready and so I went to work in June. I missed my wife so badly I made a trip up here on weekends and to drive back and forth from L.A. was kind of nuts so we decided to get married and her dad came down and we were married July 28. Got out of school (laughing here and can't understand what he's saying) early part of June, I got a job, got a few paychecks under my belt. Keep in mind that the pay scale started, I think it was 60 cents an hour; some of the work when I worked my way through college we used to get 40 cents an hour. Today I tell kids, "You know 40 cents an hour I worked my way through college." I didn't mention the fact that there used to be a Nelson Meat Packing Company on Bayshore Highway, which is called Bayshore Freeway now but in those days it was Bayshore -- "Bloody Bayshore" they called it, it was because there was only three lanes and if you wanted to pass you got in the third lane and if everybody had the same idea, head-on. Well, there was a Nelson Meat Packing Company there and he offered me a job during the summer, 40 cents an hour, killing steers and sheep so my job description was a killer. So when I went to Northrup and filled out the application, it said "What was your last employment?" I said, "Nelson Meat Packing Company." It said, "What was your job description?" I said, "Killer." (Laughter) They got a

big kick out of that when I explained to them we killed sheep, we killed steers and hit 'em on the head for the butchering. So anyway, three years at San Jose State, I knew the chance of going back was gonna be nil so we got married in July 28. What's today? The 23rd? 52 years, we've already celebrated our golden wedding anniversary and it'll be 52 years in a couple of days and we were married July 28 in 1940. Then of course the World War II broke out and there were no plans to retire, in fact you couldn't quit, you couldn't quit your job. I enrolled in the Navy because I was offered a commission in the Navy because of my college background but they couldn't accept me until I got a clearance from Northrup and by that time Northrup had started an experimental department. He was starting on its flying wing and I was deferred during the war, I couldn't join the service, I couldn't leave to go back to school or anything so I could see my career was winding down as far as my wrestling background so I got into the research and development work and then I attended night school. Northrup did too at the University of Southern Cal, USC, they had a course there in metallurgy and some of the sciences I needed and I got my Bachelor of Science degree at USC night school. I don't know how long it took most, it took me a year or two, I don't recall how long it took me. But Northrup was very cooperative, if my courses required a day course

they would put me on like a swing shift or day guard and they would allow me to switch around so I could complete my education at USC taking these partial courses. So I thought that was very nice of them so later on of course, after going to night school at USC, I got into research and Northrup developed this airplane which we had revolutionized. Their flying wing was just unheard of and the materials that he used was unheard of, some magnesium, titanium, materials like that so we thought well just go out and call up Lincoln or call up Lindy, big companies that do this kind of thing. Never heard of it, didn't have any method of welding it at all. You know for every invention there's a need, you have to have a need and that was the need for the invention of the heliarc welding. Hopefully some time later on if we can get together again why this is really a process that has revolutionized the world. I don't believe IF nobody had invented heliarc from then till now, which I'm sure somebody would have, but IF nobody had we would never have gone to the moon, we wouldn't have space crafts in the air because they are all fabricated and joined by heliarc welding. The other terms that are commonly used, a take-off, is "mig welding", "tig welding", but they are a take-off of heliarc welding. So I guess really in conclusion, my three most successful careers was first my marriage to my wife number one, and I would say the next

big thrill would be a member of the United States Wrestling Team would be a big thrill, and high among them would be the co-developer of the heliarc welding process, I think would be the three revolutionized and historical events in my life.

PC I think we'll definitely come back and do another interview on the welding and that process and within the timeframe of World War II and working. That's something that needs to be recorded I would think. Also today we'll be taking some photographs of you and of your medals and things that you have to include with this tape.

FM Oh fine, sure, be happy to.

PC Thank you very much.

FM I want to thank you and San Jose Historical Museum for inviting me.

Tape 2, Side 1.

PC Testing tape 1,2,3,4. Testing again.  
This is the second session with Fortune Masdeo. This tape covers heliarc welding, for which he is the co-



inventor, and his time spent in Santa Clara Valley as an orchardist. All of the orchardist work was done while he was also working fulltime at another occupation. Okay go ahead.

FM

All right. My name is Fortune Masdeo and for a repeat against that first tape, I was born on March 25, 1919 in the town of South Wellington, British Columbia in Canada which was located on Vancouver Island. And about 1923, my family moved to Inglewood, California which is down south near the Los Angeles area and all of my education through high school was through Inglewood High School and it was soon after, as the previous tape recalled, why being a member of the United States Olympic Team why I got a scholarship to San Jose State and, if you recall at the conclusion, when I got back from the National Intercollegiates in 1940 things were changing at San Jose State. Little did I realize that the war effort was being felt and many of the students were dropping out and volunteering for the services, many of the women were going into the nursing and whatever part of the service they were qualified for and you could really feel that the United States was getting involved with the war effort. And because of that in June I wrote to my old employer, Northrup Aircraft, and heard that Mr. Northrup was building a new aircraft plant in Hawthorne,

California and that was near Inglewood so it interested me and I got a response that yes, come down and they would hire me. So after school let out in June, early June, I went down and started to work for Northrup Aircraft, I was the 300th man hired, if you can imagine, and Northrup Aircraft later becomes something like 30,000 employees. I mention that because it was just a framework, the building was just going up, the structure was completed and they needed welders to start building the jigs and the fixtures and getting ready for the production machines and that's the job I did. And my heart of course was in San Jose because my wife was up here and in those days we didn't have any freeways to go back and forth. I managed to get in the car on weekends and (chuckling) by the time I would drive from Inglewood up here to San Jose to meet my now wife, but we could see that that wasn't gonna work out because that was a long haul in those days, believe me, and the cars weren't like they are today. But we went to work and by July 28 we were married, July 28, 1940, the wife and her father came down and we were formally married in St. Joseph's Church in Inglewood, California. And because of the war effort, the production of the aircraft was coming out and Northrup was to build the P61 Black Widow, it was the night fighter for the war effort, and at the same time they were building an experimental department but they

needed to get the production started and so I was -- in order to weld on aircraft proper, parts that go on an aircraft, you have to be certified, you have to pass certain tests, very very difficult welding tests, and so I worked on those and finally was a certified aircraft welder. Keep in mind too that a journeyman aircraft welder with full journeyman status earned a dollar and a quarter an hour. I went to work with 62 1/2 cents an hour, can you imagine (laughter), of course maybe the 62 1/2 cents bought a lot more then. But anyway, after being certified why of course your salary goes up to a dollar an hour, which was great wages, but the important thing is I was getting experience in welding the -- there were only three of us that were certified and one was Russ Meredith, I was number two and there was another gentleman, number three, I don't recall his name, Charles something. But you had to be certified to weld chromalite, which was the main material for aircraft metal; chromalite steel was then and maybe still is aluminum and stainless steel, those are the three primary materials needed in aircraft. And as soon as this experimental department started, why Russ was moved into the experimental department and little did we know what was happening. But it didn't take long, the word got out that Northrup was building a flying wing; he was experimenting, he wanted to build a flying wing

\_\_\_\_\_ production, you know the 61, that's a production model and that was proceeding. But Russ being in the experimental department he quickly got overloaded and thankfully why he asked for me and I joined him in the experimental department. Research and Development was sort of the primary -- Northrup was a man 50 years ahead of his time. You can see today the Stealth Bomber is a takeoff from the original flying wing but he could visualize the future needs of the aircraft.

PC            Was the design of the delta configuration his?

FM            Yes it was Northrup's design. He has the original patent and design of the original delta wing flying aircraft and I have some photographs in here of it which maybe you would like to take some pictures of it and it shows the different models that we worked on. And basically there are three different phases of aircraft that we got into with the flying wing and the very first one was called the M9M and the photographs will verify that. It was a fighter plane and it was a smaller delta wing, very similar to the bomber -- today we think of only the flying wing as a bomber but actually it started as a pursuit plane or fighter plane. And then that was proceeding and immediately behind that was called the XB56 and the XB56 was an all magnesium all welded

aircraft. Up until that time they were all riveted, riveting was and still is the most common method of fabricating an aircraft, but Mr. Northrup wanted this XB56 to be all magnesium because magnesium was lighter than aluminum and had the strength of steel because it was rigid, it didn't bend as easy as aluminum. And then this third one, which was in a mockup stage, was the XB49 and that's the big bomber which today the stealth bomber it's the forerunner of it and that was a flying-wing bomber but it was in just the mockup stage at that time. These other planes were progressing in sequence and as soon as we got to this XB56 the problem was that there were some weldments to be fabricated and so we called the local main welding suppliers, Lincoln Aircraft and Airco, which is air deduction, and they didn't even know what we were talking about. Magnesium, you can't weld magnesium, they had no way of welding it, no way of fabricating it and here we are, here comes an airplane being designed to fabricate with all these weldments and no way to weld it. So you can imagine the frustration and the first few meetings we had why we reported what we had done, who we contacted to fabricate it and Mr. Northrup in these meetings said, "Look, if they can't \_\_\_\_\_ why we'll do it ourselves." The man in charge of research for Jack Northrup was a man called Pavalecka and I have no idea how to spell it; I've looked for his name, I have

no idea how it's spelled but we called him "Pavy" for short, you can imagine (laughter). But Pavalecka was a brilliant man, he was, I don't know, from Czechoslovakia somewhere but a very brilliant engineer; he headed up the Research and Development for Jack Northrup. And a little history, we got started trying to fabricate and weld magnesium and part of my job was to record all the gases that were used, and anything that came in a bottle we had to requisition out, pass through and if it came in a bottle we would try it out. And again some of these photographs will have to be self-explanatory. There are different stages of development of the heliarc torch and the very first phase of it, which the photographs hopefully will explain, everybody thought of arc welding and arc welding it takes a holder and you put a \_\_\_\_\_ with the holder and you do arc welding and that's what we wanted to do was the arc welds and we could use oxyhydrogen, we could gas weld magnesium but it took a very strong flux, a flux is what's used to extrude the oxygen and nitrogen and allow the magnesium to flow smoothly but this flux is very corrosive so you can imagine the problem was that in certain joints the corrosion would get underneath the joints and the next morning why you'd see things starting to bubble up right away. We tried different chemicals and everything to clean it but because of the type of joint it was limited

to only those kind of joints that you could clean both sides and that's why we wanted to go to arc welding and arc welding was much faster of course, that was the other reason. So we had a regular electrode and we sent them out to the machine shop, we'd drill a hole through this little wire, it's an eighth of an inch in diameter, to drill a hole through there so that we could clamp on with the holder, as the photograph will describe, and we would try welding with it trying arc welds. And we'd try these different gases going through the center of this wire, the hole that the machine shop tried to drill, and they could only drill about 12 inches long, they couldn't drill through a long piece of wire. Well anyway, nothing was working satisfactorily and one day Pavy came to us and said that a friend of his was very sick, very ill and that he was going to go to the hospital to see his friend, he wasn't expected to live and that he wouldn't be in tomorrow, just to let us know. What I'm reaching for, I'm coming to the point how heliarc was developed rather than going into a lot of little details that at this point we don't have explanation for it. But Pavy went to the hospital the next day, the following day Pavy came back to work while we'd say, "How's your friend?", that's normal courtesy and, "How's he doing?" "Well", he said, "they had him in a tent in this hospital and they had oxygen into this tent." He couldn't breathe and they

had oxygen -- now this is the type of man that Pavy -- now he's going to the hospital to see his friend but already he's describing the tent, the bed, he just has that kind of great mind that he had and he said, "You know, the oxygen was too thick, the man couldn't breathe the oxygen and they had another gas going to it." He said, "Oh you did, what kind of gas were you using?" They said they had helium, they had helium going in mixing with the oxygen to thin out the oxygen so the man could breathe and that is what's saving the man's life. My job in this heliarc, part of my work, was to record all of the gases that were used. Well, after this story I went back and I got thinking, helium, helium -- you know in those days, we're talking over 50 years ago, we didn't really know the word helium so I went back and I looked down my chart and I didn't find anything about helium so I thought well, if it came in a bottle, so I wrote out a requisition to buy a bottle of helium. Well, during the war effort now the war was perking along, we weren't actually in the war yet but we declared war with Japan in December but it was getting -- everybody thought we were at war, Hitler was already at war in Europe, the war was on but it was just a matter of time before we got involved in Europe. And the purchasing agent -- one of the big problems in buying is that purchasing agents sit on requisitions but during the war effort, at least at



Northrup, the purchasing agent had one week to place that order and if that purchase order was not placed in one week there was a meeting set up the following week to have the answer why and then it went to the next higher level and if it wasn't settled then in the second week, it went to the third level and things started to move pretty fast. Well, the first week came in and my requisition came up and he couldn't fill it and they were saying why they couldn't buy it, they went all over and they instructed him to go all over the United States and wherever it took to get it. So the following week why my requisition came up again and you either had a choice, either I could cancel my requisition for it had to come from me or my boss, Mr. Tom Piper who was a very famous man, and he tried the material from Process Engineering, he later became my boss, and he could cancel that requisition over me but he backed me up. He'd asked me, "Do you want to cancel it?" and I said, "No, if it comes from a bottle let's try it." So he didn't override it and it got to the very topmost of the top management level of the company. This is how close the turning point of the development of heliarc welding, the reason I'm telling you this story because there's always some little thing that, we call it tilts the.... And finally when it was at the very high level they called me in again and he said, "I've gone all over the United States,

we've got everybody, we cannot buy helium in a bottle." And I said, "That's ridiculous, I talked to Pavy" -- at this meeting when things are starting to get a little strong -- "and Pavy told me that...." I repeated the story, and I said, "Well, why don't you go see Pavy or why don't you go to the hospital, if that's where it was go to the hospital." And the guy said okay so he tried it, and what happened the helium was controlled by the government, it was not for sale. This is what we found out so at the following meeting he said, "Yeah, they got it but we can't buy it because it's controlled by the government." And Northrup said, "That don't bother me." He called in his attorney, there's a department handles the government phase of the business, you know, the legalities and all of that. Well in no time flat, of course, and where did they get the bottle of helium? Some little town in northern California called Sunnyvale. And I said, "My goodness!" In those days when I went to school Sunnyvale was a long ways away. It was all orchards, you see, these little towns even though there were names they were far apart, no highways or freeways of course. And I said, "Sunnyvale", I looked it up on the map and there was the little town of Sunnyvale, it didn't look like it was too far from San Jose (chuckle). But we got the bottle and as soon as we put the bottle on this electrode and tested it, wild! Immediately we could

see a successful weld. The problem was that as soon as the -- the molten metal coming out as soon as you would stop the weld it would certify and no more gas, it couldn't get through. So you had to clip it off because if you started again it would oxidize because it didn't have anything there on the outside. But that was the basic story on how heliarc got started and from then on we improved it, improved it until it comes to a modern-day picture which I show you.

PC           And what about the patent for the heliarc?

FM           Lucifer(?) Kraft got the patent and soon after I got a check for \$1.00 and I was all mad, your feelings are kind of -- give me \$1.00 for this! My gosh but when you sign up for the war effort everything's for the war effort and you don't have any rights as far as your personal patent -- I couldn't have done it anyway, it's too expensive and all the work and lab work and the physical testing, the chemical analyses and all that. So Northrup got the patent but they needed legally to pay off -- Lux got one and I got one, a one dollar bill. Remember I told you we were just mad, I thought well -- my feelings were hurt so I took a thumbtack and I stuck it on a little \_\_\_\_\_ we had, I thumbtacked it on the wall, well I'll keep it for a souvenir. And time went on and about two weeks later

I get this real stern hot letter from Northrup's attorney, "Our records show that you have not cashed the check and if you don't cash it within five days your job will be terminated." My goodness, my job was at stake now. I of course signed it because, you know, it's merely words. But that's how the patent was processed.

PC Was this considered a classified project?

FM At the time yes.

PC Could you discuss it at home or....?

FM No, no we couldn't discuss it at home or we couldn't discuss it with outside people until the patent was obtained. Once the patent was applied for -- because immediately what we wanted to do was get it started into production and as a result of that Russ was promoted to another job and I was promoted to Chief Welding Engineer for Northrup Aircraft, I was Northrup's first welding engineer, and Tom Piper I mentioned before was my boss. As Chief Welding Engineer, I was responsible for signing off all the engineering drawings for manufacturability, I had to certify all the welders; all these certified aircraft welders that we needed for production, my job was to certify them, you know, and technical advisor for

the shop and for engineering, and I wrote all the detailed process specifications and procedures and \_\_\_\_\_ a manual that went to the shops.

PC           There may be a \_\_\_\_\_ for a time here.   Begin recording again.

FM           At the outset of the heliarc development now being opened to the world why I was getting requests from all over the world for information on heliarc welding. I wrote many technical articles for different industries and magazines which I'm showing you here. Maybe we can get a picture of them later and you can see that; for example, here's one, "Helium \_\_\_\_\_ aluminum alloys, welding engineer at Northrup, by Masdeo." I was getting publicity and I was trying to respond to advance the process and actually it became world renowned and I'm sure somebody would have developed it by now but a hypothetical situation would be if heliarc welding had not developed up till now, the chances are we would never have been able to go to the moon, our air outer space program -- because many of those parts are all heliarc welded -- my feeling is that somebody would have developed it. It's too important of a process.

PC           Was that in 1940 or '41 when you finally....?

FM

1940 when it was finally patented. Then during this time Northrup was very instrumental in my further education. I had only gone for three years at San Jose State and during this time Northrup was very much a person that encouraged people to get their education and I wanted to get my degree and the war was kind of pretty well in hand now and so I enrolled at the University of Southern California and Northrup would allow me, depending on my courses, lab work or when it was available, to go to USC to get my degree and I finally, I don't know, a year or year and a half later (chuckle) -- it was a long year, it was longer than I would normally have taken but when you're working and going to school it's pretty tough. But Northrup was very very cooperative in that respect and very helpful; they would allow me to work different shifts, you know, to take a certain course which is really the bottom line. And I finally got my BS degree in Engineering which I was very thankful for.

Of course now after the flying wing, it was gonna go through three phases. The first flying wing was a pusher, gas engine, it was propeller-driven; and then the second phase was gonna be gas turbine engine; and then the third phase was gonna be jet engine, it would be every five years or ten years, whatever length of time it took. And finally why they were far enough along with

the -- we had always built the, remember, the flying wing had gone into production. Now I was supervising people to do this phase of it, and they were always planning now for a gas turbine phase and so they looked around and they couldn't find anybody. These gas turbines are great big -- it would take a great big lathe and vertical boring mills and horizontal boring mills and there were nothing like that in the L.A. area so Northrup looked around and they finally found a company called Joshua Hendy and where? in a little town called Sunnyvale (laughter), California of all places again. And they got together and they formed a company called Northrup Hendy. Northrup was to do the engineering, had the engineering and testing, and Hendy to do the manufacturing because they had the large machine; they had been building steam turbines since World War I, I guess. Of course they needed somebody up here to -- this is now we're talking about after 1945, the war is pretty much on the end and towards the end of 1945 -- and they wanted somebody up here to supervise, had the experience for manufacturing. Well I always kind of had -- my wife was born and raised here in San Jose and my heart was really up here in the farm country and orchard country so I looked on the map again and here's (laughter) Sunnyvale, California again so I applied for the job and I got the job and that's how I moved back up in this area. And I was the

superintendent of fabrication and soon after that why in 19-, I think it was 1947, Westinghouse bought out Hendy so it was no longer called the Northrup Hendy because there wasn't any Hendy Company, it was all Westinghouse and so they renamed the company Turbidyne, Turbidyne was the name of the company between Westinghouse -- they didn't want to call it Northrup, they didn't want it Westinghouse, a prime name doesn't go over on your product very well because it's too -- like you're trying to push it on, even though you own it it's better to have somebody else. But anyway that's the benefit I got from the development was the exposing of, you know, my reputation in the welding industry and getting up to Westinghouse; then I transferred over to Westinghouse as their welding engineer. Then very soon after that, around 1949-1951 Hiller Helicopters -- a lot of people don't remember but Hiller Helicopters was just in the infancy stage starting up in East Palo Alto -- and they were looking for experienced people in aircraft and they got word to me somehow and Stanley Hiller, I went up to see Stanley Hiller one day and interviewed and he offered me the job of Manager of Fabrication at Hiller Helicopters. So I did, I left the job because I did like it and that's all. And it was during this time then that the American Welding Society, which is the technical society in the United States for welding, we were



instrumental in getting a society established in Santa Clara Valley and I later became Chairman of the American Welding Society of all its Santa Clara Valley Section and that was the year 1956-1957 and to be elected by your peers is probably the highest honor you can have. I was very thrilled when I was elected captain of the wrestling team at San Jose State because you're elected by your peers so to speak and again here and the American Welding Society is the top technical society in the United States actually. And so therefore, at one time I gave a talk to the American Welding Society and I would like to have you have a copy of that for the record because it was a talk giving the history between 1940 and 1945, and what I'll do I'm gonna show you the original torch and we'll get a photograph of it, I have the whole picture in the other room there, and for the record it is the original. I've got the original and where I want it is in the Smithsonian Institute but I'm afraid I don't know how to get to the right person. I don't want it out of my sight. The American Welding Society does not have a museum, of all things, and that's where it belongs and I'll show you when you see it. But anyway, while I was at Westinghouse I worked on very special projects: a 130-foot radio telescope which was located in Owens Valley in the Big Pines just south of Bishop and you'll see this great big 130-foot radio telescope, I was the

project engineer on that. When we go fishing in the high Sierras at June Lake, my brother comes up from L.A. and his wife and we drive over and he sees it every year.

PC           The airport.

FM           Yeah, Hardwick, yeah. And I'll have a picture of that for you too for the record. I also built a 108-inch optical telescope for the University of Texas and every once in a while on the radio I'll hear this man talk about the universe and the pictures from the University of Texas on, what's this mountain? Mount -- oh goodness -- but it's for the University of Texas and their observatory, a 108-inch optical telescope, and the whole story on that one is that when the astronauts landed on the moon they were to place a certain instrument on the moon so that they could look at it from earth, to look at it and get the orientation and they lost the orientation. And lo and behold, I was told that they found it by this 108-inch (laughter), this 108-inch optical telescope which maybe it saved them.... But anyway, the other special project I worked on was the Trident Missile, the missile launch.... (voice interrupted by end of tape)

Tape 2, Side 2

PC            This is the second session with Fortune Masdeo. The subject is Heliarc Welding for which he was co-inventor and his time spent in Santa Clara Valley as an orchardist. All of this done, the orchardist part, while he was working fulltime.

FM            (Beginning of sentence cut off) important, I should have mentioned it earlier, is really broken down into two parts as we know it today. Today they broke it down, you'll hear the term "mig welding", m-i-g which stands for metal inert gas and what that is is a spool of wire coming through a holder with continuous flow with the wire being reel driven surrounded by, today they use argon gas which is also an inert gas but it's manufacturable, they can manufacture it but the helium they can't because it's controlled by the government. But the argon gas is an inert gas and does the same thing. And I've spoken of mig welding, which is metal inert gas, and also you'll hear of "tig welding", t-i-g welding; both of these were sub from the term "heliarc welding" and the term "tig welding" stands for tungsten inert gas and whereby the inert gas comes through the holder surrounded by a nozzle and the welding is done inside this -- theoretical, if you can imagine, a bubble when you blow a soap bubble, you blow a bubble, and that extrudes oxygen and nitrogen which are very detrimental

to welding, extrudes it and your welding is done inside this little bubble. And it's invisible, you can't see it, but you control it by the amount of pressure that you put through the welding torch, both for the mig welding and tig welding.

PC Helium then, are you saying that \_\_\_\_\_  
and still controlled by the government?

FM Um hmm, far as I know.

PC Why is that? Because it's the property \_\_\_\_\_?

FM It's because there's only one area they can find it, it's in Texas, Amarillo, Texas, I believe. There's only one source of it and they only use it for very special government projects and I think they use it for dirigibles, lighter-than-air aircraft, but whatever other reasons I don't know, but the argon is manufacturable and that's why they permit it and it's really the most commonly used gas now and it's much less expensive than the helium.

So other than the photographs, which you're certainly welcome to have Pat, why that concludes my story unless you have....

PC            Wonderful.    Well, we'll go ahead then and go into your.... After you arrived in Sunnyvale (loud noise of turning pages drowns out a few words here) about owning your orchard, how you got it, about your wife and the Hook family and who they were and....

FM            Yeah, that's an interesting experience, you know. My father-in-law, my wife's father, owned an orchard out in Evergreen and he tried to run it by himself, which is a very very difficult job. He had 30 acres of apricots and prunes -- actually not 30 acres, there were 25 acres of apricots, 10 acres of prunes and five acres was bare where we were gonna build our home up in a little knoll and that was gonna be our home, horses and gardens and whatever else we'd want up there for our living area. But Dad Zotta, his name was Antonio Zotta Z-o-t-t-a, and his wife had died, my wife's mother had passed away, and they had five girls to date, Mr. Zotta and his wife, my wife being the oldest; when the youngest was born, a few months later why her mother died so really my wife raised the family and even though we're not blessed with children she certainly had the experience raising four girls. My wife's name is Therese, the next oldest was Mathalda, the next oldest was Millie, the next one was Anne and the youngest was Rosemary and they like to be known as the Zotta Girls. Two of them, Mathalda and

Millie, both went to San Jose State and they later became very successful nurses and administrator of nurses at a hospital. But Dad Zotta wanted to retire, he didn't want the total responsibility, he was getting along and he wanted to retire and he made me an offer I couldn't refuse (laughter). My curiosity was there, I enjoyed it; I used to go out with him and he taught me how to prune, when to spray, you know the organization of an orchard is quite interesting and this was located on Silver Creek Road. This was in 1947 when I bought the property from him and the apricots were Blenheim type apricots and the prunes were the French prunes, of course, so that you could dry them. And basically he didn't have any water out there, he was dependent upon the rainfall, what's called dry irrigation and if it rains you got a good crop, if it didn't rain -- and he had gone through a couple of dry years and he began to feel it hurt him, you know, to see the trees die off. It was at that time that I joined the Farm Bureau which was very helpful in getting information on managing of a ranch. Incidentally, remember that sign is now located in the Fruit Barn at the San Jose Historical Museum which they were quite anxious to have when I told them I had one. One of the first things I did was to hire a company called Western Pump, used to be located on The Alameda right about the curve on Santa Clara Street when it

becomes The Alameda, it was right on that corner, an old old reliable company called Western Pump. And they come out and have to locate, and they have the old witch -- they send a man out, what do you call it?

PC           A water \_\_\_\_\_.

FM           A water \_\_\_\_\_, there you are. Because we didn't spend that much money, kind of \_\_\_\_\_ everything in your favor and lo and behold why they did hit water anyway. But the problem was of course, I soon began to find out as did the entire valley, that the water level was dropping in this valley. See, this entire Santa Clara Valley, I don't know if you realize it or not, is built like a large bathtub roughly 20 miles wide, 40 miles long and has different strata down every hundreds of feet, different strata over the eons of years and all the drainage from the water from the mountains on both sides of the valley all drain in these strata and at that time more water was going in than being pumped out. But as the orchards grew and as industry started to come in they were pumping out more water as the population come up, more water was in demand and the water level was dropping. With less rainfall and more pumping out why the water level dropped and one year they had to even lower my pump something like a hundred feet and you're

talking about a 10-inch big tank, and this was before we had, I think, around maybe one or two reservoirs in Santa Clara Valley. We didn't have the luxury of all the....

Now the sequence of apricots, I don't know if you'd like a brief discussion of apricots. I have some photographs which you're welcome to take and make copies of that at least show our small operation and may be helpful to some people that don't understand it. But basically during the winter the apricots go dormant and that is the time that you do your pruning and it's very important to learn how to prune. Most people go in and they'll just shape a tree and wonder why they don't get any fruit. You've got to know where the fruit....and how to prune -- you know, I look at a tree and I just visualize how to cut it. My father-in-law, I was taught by an expert and there's nothing like being taught by an expert and if you didn't cut that tree right why (laughter) he let you know because that's your livelihood, you ruin that tree and....so he taught me how. And I'll get into that pruning, I have another story to tell about that pruner. Then that was done in the wintertime and also during the wintertime you had to go through and have all the trees sprayed with oil because you put that on during the wintertime when them bugs aren't on otherwise you would kill all the leaves and the fruit. Now this is the type



of work that you had to hire out, this is work you hire spares and if you can't handle all of the orchard you hire men to help you with the pruning to get done in time. And then after the pruning and the blossoms come on in the pink bud stage, now at the pink bud stage is when the little fruit is just in a bulb before it opens up and becomes a fruit. It is called a blue stone or a bordeaux mixture, it's like a copper sulfate, it's very bluish and that's why they call it blue stone, but you had to spray it right at that time and again you hire it out and timing is very important. Now the biggest problem with farming is you're at the risk of nature, the weather, everything's got to be done, you've got certain times and if it isn't the farmer takes it. So then after the blue stone spray, the fruit starts to mature. Now you start getting ready for your -- we dried our cots. You can sell them to the canneries for fruit but the better price is with dried apricots. So we were set up, we had the \_\_\_\_\_ and the smoke house -- sulphur house we called it -- and we'd hire some help; of course all the girls, my sisters, would all come out and we'd spread a \_\_\_\_\_. But they would cut the apricots, very skillful. You'd cut an apricot, because again you're paid by the quality of your cuts, and with the apricots you'd cut 'em in half, lay 'em out on a tray and when the trays are full why you'd

stack 'em up in front of the sulphur house and you'd put your sulphur into the sulphur house, generally on the railroad tracks stacked with probably about maybe 18 or 20 high of trays, wheel 'em into the.... on tracks because it's so heavy, and you have to overlap them so that the fumes can get all the way through -- you don't lock them in -- and then the last thing at night before we went home we lit the sulphur and the next morning -- it would burn all night purifying, cook all the apricots. The next day our job was to take all these trays and lay 'em out in the sun in nice neat rows -- and there are some photographs in the Fruit Barn showing that. When I give a tour, of course, you can see where my time was spent. And then after the apricots are dried, you check 'em every day, and of course many times if you get a freak storm, middle of the night, one o'clock two o'clock in the morning, it starts to rain, up you go, dry it out, pack up, take all these trays, lift 'em up, stack and cover 'em so they don't get wet. Again I'm explaining some of the good and bad parts of being an orchardist. But when the trays are finally dried, you scrape them off and they are placed in lug boxes and they are generally segregated for quality-wise like the broken ones are called "slabs", they're separated because you get a different price for those, but the good cut half are kept separately and that's what you take to the packing house.

I used to send them to Mayfair Packing right over here. You \_\_\_\_\_ Belden Apley, he used to be the buyer there. He's now probably the owner of the place, I don't know. But that's basically the story with apricots.

Prunes, briefly, is a method whereby they -- again during the wintertime they're sprayed with oil and they are also pruned, cutting off the dead wood and opening up the centers. One thing I did forget during the course was the irrigation. Of course, always months prior to picking you have to irrigate the orchard. That's why we had the \_\_\_\_\_. Then the prunes are -- when they start to drop they have to be picked and you have to disk the ground sufficiently so it's not thoroughly smooth, you know, worked up so it's not too hard and then this is when you have to hire the labor. And there used to be on South First Street the Farm Labor Department. If you want to hire half a dozen young men, you'd bring your truck down, you'd go over there, you'd pick 'em up, you'd bring 'em out to the ranch, do your work. Many of 'em would want to be paid at the end of the day. These laborers they'd soon learn that some farmers wouldn't pay 'em and they got gypped out of -- you know, who's gonna believe a picker. But I always paid them at the end of the day. You know when they pick a bucket of prunes,

you'd come over and they dump it into the lug, you'd punch 'em so then you know how many, with your punch, how many buckets and you'd pay 'em accordingly. The prunes you do process by a lye dip and you put 'em in -- some people use cold lye, some people use hot lye, hot lye is faster of course. You dump them in and in a few minutes why you can take them out and put 'em in your trays and sun dry them. A cold dip -- we had cold dip -- takes a little longer but what it does basically it not only cleans with this lye it also gives a very slight cracking of the skin, not a big crack just the skin so that they can dry more easily and more quickly. Then you lay those out in the sun for drying. It was right about this time where sun drying became obsolete and they came out with dehydrators.

PC           When was that? What timeframe was that when they started using the ....?

FM           Well, just about 1947-48. Some of the bigger families, you know, they could afford to buy 'em because it was expensive to put in their gas -- you need like a big gas oven is what they are. So it was right after that my friend, remember Sam Dellamagiore? used to be a Supervisor of Santa Clara County here in my district. He had a ranch out here on Tully Road and Lucretia and he

had a bigger ranch and he put a dehydrator in. Well when I found that out, he started doing all my prunes dehydrated which is much faster, easier, cleaner and you don't have all this leg work involved; you just pick them and bring 'em to the dehydrator. You go through a cycle, cleaning and washing, the whole bit. But that basically is -- again you bring 'em and you put 'em in sacks -- gunny-sacks is what usually the packing house wanted, and you tie 'em a special way so that two ears would stick out at each end for a grip because they get heavy, both loading it and at the packing house, both ends; you see you need something to hang to it with, nothing harder to lift up is a sack with no handles.

The other thing to know about the ranching -- orchardists -- are gophers and a little story about the gophers. Everybody controls gophers, you had dozens and dozens of gopher traps; if you didn't control gophers, they'd eat you out of business. One day my wife did some shopping in Los Gatos and while she was going through this antique shop I talked to the gal at the desk there and I told her I was now a docent at the San Jose Historical Museum, that opened up the door for conversation. She was born and raised in Santa Clara and she said, "Well yeah, you must know all about this McAbee Gopher Trap." I said, "No! I have dozens of them." She said, "You know

they're made right here in Los Gatos?" And I says, "They are! Where is this place?" She said, "Just a minute." She picks up the phone and she calls and she clears the way for me to go through this gopher trap manufacturer of a McAbee Gopher Trap which is world famous. Everybody's tried to duplicate it but nobody's ever been able to do this simple little thing. And when I found the place, it was an old Victorian home down in the basement, in the cellar, and some worked down below, some worked up in the -- but it was a house, an old Victorian style house. And this man proceeded to follow me -- again, being a docent really helped (laughter) because he knew I was interested -- complete manufacture of all of the McAbee Gopher Trap and was all through, the last thing, you know how he painted 'em? He'd just pick up a handful like this and dumped 'em in (laughter) and that's the way he painted 'em. You know, no spray, they didn't have that in the olden days and they'd just hang 'em up on a wooden tray, trough, to dry, drip-dry, and all he had to do then was put the little sticker on it. So he gave me a couple and I gave one -- it's in the Fruit Barn, next time you go through the San Jose Historical Museum. I gave 'em the little brochure; it doesn't look like a big thing but it's very important to have (chuckle) your McAbee Gopher Trap. So when you see that one at the Museum why that's sort of a little thing to talk about.

Of course you know, \_\_\_\_\_ it's too hot, it's too cold, the poor orchardist \_\_\_\_\_ bugs. Then by 1952 thereabouts, I was now commuting to Hiller Helicopter, which is up in Palo Alto which was a long ways in those days before Bayshore Highway which was the old three-lane -- they called it "Bloody Bayshore", and that's where I used to work. And I got promoted to Manager of Manufacturing and I couldn't handle hiring the labor, two jobs were just too much so my decision then was to -- agreeable with my wife of course -- to sell the ranch and I had to decide my future. I've been out there lately trying to find and locate where the ranch was, right near the Silver Creek High School. I think I've got some of it located but I think they've rerouted Silver Creek, pretty close but it's pretty hard to because all the homes and school, it's pretty hard to actually locate it.

But a funny thing, you know what an interview like this does between this interview and the previous interview? It causes you to reflect on your life. Little have I done this, you know, all these years. It's been kind of interesting to me and I sure appreciate your consideration in talking to me. I hope it's been a big help to somebody in the future. But what it's really done to reflect on my life is that you know it's provided me with a college education through my wrestling. I was

the only person in my family ever went to college; my mother and father, of course, were from Italy and my brothers and sisters never went to school other than high school -- two of them went to high school. So it provided me with a college education through my wrestling, it's also where I met my wife, really it was just through this. My career was very very successful, I should say. Because I've been co-developer of the Heliarc Welding process why it just opened up all kinds of doors and opportunities and my careers have been successful in the jobs I've had actually to the point where in 42 years I've worked I never missed a day work, 42 years.

PC            Oh, what a record!

FM            When I reflect back, from the day I was hired to the day I retired, you know, working with these different companies: Northrup, Turbidyne, Westinghouse, Hiller Helicopters and back to Westinghouse, never missed a day of work because I was on salary and in a position to -- maybe I've lost days of cold or something but we have enjoyed good health, I have never been in a hospital. My wife's had minor surgery, what do you call it? one day, what do you call it? out-patient.



PC Out-patient.

FM Out-patient basis but we have never been to the hospital and never had anything (chuckle), operations in all our years and we've been very very successful with our investments and I was able to retire early. I retired at age 62 and we've enjoyed our retirement; we do a lot of traveling, we like to fish. So really this has been a kind of reflection and I've never been one to talk about myself; I've always hesitated on bragging, I don't particularly care for it unless I'm asked, I like to answer.

PC You are so busy you don't have enough time to brag.

FM (Laughter) \_\_\_\_\_ It's just that it's not my personality to do that. Unless you have any other questions, I sure want to thank you, Pat, for the interview.

PC Well, thank you. There are some important contributions here.

FM And the San Jose Historical Museum I sure appreciate it.

PC Thank you very much.

End of Tape 2, Side 2.

\* Manchuria, home of a Mongoloid people who conquered China in 1644 and established a dynasty that was overthrown by revolution in 1911. Part of mainland China.